Remarks

Entry of the amendments, reconsideration of the application, as amended, and allowance of all pending claims are respectfully requested. Upon entry of the amendments, claims 1-10 are pending.

With the above amendments, applicants have amended claim 1 to make the language of the claim consistent, and have added dependent claims 8-10 to explicitly define one example of the instance identifier. Claims 8-10 recite that the instance identifier provides an indication that a failure event has occurred. Support for these new claims can be found throughout the specification (e.g., FIG. 1; page 6; and page 8, paragraph 28). Therefore, no new matter has been added.

In the Office Action, dated October 11, 2005, claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaman et al. (U.S. Patent No. 6,011,780) in view of Miyagi et al. (U.S. Patent No. 5,461,607) and further in view of McAllister et al. (U.S. Patent No. 6,697,329). Applicants respectfully, but most strenuously, traverse this rejection for the reasons herein.

Applicants' invention is directed, in one aspect, to providing reliable communications in a system of directly connected data processing nodes. When a node or communication link failure is detected by, for instance, a heartbeat detection mechanism, each node of the system associates a unique instance identifier with the detected failure. Notification of this failure is sent to the other nodes which have existing communication links with the failed node. At the nodes which are notified, pending communications links with the failed node are terminated based on the current instance identifier and a new instance identifier is used for further communication. When the failed node comes back online, communications are renewed with a new instance identifier providing an indication of the last valid packet transmission that occurred. Packets with incorrect (or old) instance identifiers are discarded by the receiver, which helps solve the classic trickle traffic problem.

None of the patents cited herein solve or even address the classic trickle traffic problem. Although one or more of the cited references employ rerouting as a technique to overcome failures, rerouting does not address whether an incoming packet should be absorbed by the application or not.

In one particular example, applicants claim a method of providing reliable communication in a system of directly connected data processing nodes (e.g., independent claim 1). The method includes, for instance, detecting a failure of at least one node or a communication link in the system using a heartbeat signal provided over a separate path to indicate to other ones of nodes in the system that the at least one of said nodes or the communication link is not functioning; establishing, at one of the other nodes, an instance identifier associated with the failure; sending notification of the failure, including the instance identifier, to the other nodes having existing communication links with the at least one failed node; and terminating, at the notified nodes, pending communication links that involve said at least one failed node, the termination being carried out in response to the notification. Thus, in this aspect of applicants' claimed invention, a failure is detected using a heartbeat signal provided over a separate path/mechanism; an instance identifier associated with the failure is established at one of the other nodes; and notification of the failure, including the instance identifier, is sent to the other nodes having existing communication links with the failed node. Further, the pending communication links that involve the at least one failed node are terminated in response to the notification. Applicants respectfully submit that one or more of these claimed features are not taught or suggested by Vaman, Miyagi or McAllister, either alone or in combination.

For example, applicants respectfully submit that each of the references, and therefore, the combination of the references, fails to describe, teach or suggest an instance identifier. It is explicitly stated in the Office Action that the Examiner agrees that neither Vaman nor Miyagi teaches or suggests an instance identifier. Therefore, McAllister is relied upon. However, applicants respectfully submit that McAllister does not overcome the deficiencies of Vaman or Miyagi, either alone or in combination.

McAllister describes an operator directed routing of connections in a digital communications network. While McAllister makes mention of a signaling protocol and a routing protocol, there is no description at all in the cited portion of McAllister of an instance identifier. In the Office Action, it is stated that the instance identifier is taught in Col. 6, lines 8-65 of McAllister. However, applicants respectfully submit that a careful reading of this section does not disclose any teaching or suggestion of an instance identifier. That is, there is no teaching, disclosure or suggestion in this portion of McAllister of a variable which provides an indication that a failure event has occurred (e.g., for the first, second, third or fourth time, etc.). There is no indication in McAllister that it is necessary, useful or desirable to keep track of this information. Furthermore, there is no teaching, disclosure or suggestion in McAllister relevant to anything that can be remotely described as an instance identifier.

Instead, the cited section of McAllister describes a network, a signaling protocol and a routing protocol. It fails to describe, teach or suggest an instance identifier, as claimed by applicants. Since there is no teaching of an instance identifier, it follows that there is no teaching or suggestion of applicants' claimed element of establishing, at one of said other nodes, an instance identifier associated with said failure. There is no description in McAllister of establishing an instance identifier associated with failure. This simply is not described in McAllister.

Further, there is no teaching or suggestion of sending notification of said failure, including said instance identifier, to said other nodes having existing communication links with said at least one failed node. Again, there is no instance identifier. Further, there is no teaching or suggestion of sending a failure notification that includes the instance identifier to nodes with existing communications links with the failed node.

Since one or more of these elements are missing from McAllister, McAllister does not teach or suggest applicants' claimed invention. Further, since Vaman and Miyagi each fails to describe, teach or suggest these same elements, as explicitly admitted in the Office Action, applicants respectfully submit that the combination of the references fails to teach or suggest one or more of applicants' claimed elements.

To reiterate from the initial Response, Vaman fails to describe, teach or suggest an instance identifier, and therefore, the claim elements that relate to such an identifier. Col. 12, lines 9-17 of Vaman have been cited as the basis for an assertion that Vaman teaches the utilization of an instance identifier. The only possible reference in this portion of the cited patent that could possibly be construed as an instance identifier is the reference to "an alarm indication signal." This alarm indication signal is described as having a function type, a message type and failure location indicators which point to virtual paths and to types of failure. No where is there any indication at all that this is or contains an instance identifier. Vaman fails to teach an instance identifier, as explicitly admitted in this Office Action. Further, it has been admitted that Miyagi also fails to overcome this deficiency of Vaman. Yet further, applicants respectfully submit that McAllister does not overcome the deficiencies of Vaman and Miyagi, as described above.

Since all of the cited references fail to teach or suggest an instance identifier, as well as one or more claimed elements relating to the instance identifier, applicants respectfully submit that their invention, as claimed in independent claim 1, is patentable over the combination of the references, *assuming arguendo* the combination is proper.

Moreover, applicants respectfully submit that the combination of the references is improper, since there is no teaching or suggestion in the references themselves to make the combination or modification suggested in the Office Action. It is well known that:

> It is insufficient to establish obviousness that the separate elements of the invention existed in the prior art; absent some teaching or suggestion, in the prior art, to combine the elements Arkie Loures Inc. v. Gene Larew Tackle Inc., 43 U.S.P.Q. 2d 1294, 1297 (Fed. Cir. 1997).

Applicants respectfully submit that there is no such teaching or suggestion in the references. That is, there is no teaching or suggestion in the references themselves to make such a combination. For at least this reason, applicants respectfully submit that the combination is improper.

In addition to the above, applicants respectfully submit that a *prima facie* case of obviousness has not been provided. For instance, in the Office Action, it is indicated that Col. 6, lines 8-65 of McAllister teach an instance identifier. However, there is no description of what in that column is an instance identifier; only a general reference to that column is provided. Thus, applicants respectfully submit that, for at least this reason, a *prima facie* case of obviousness has not been provided.

For at least the above reasons, applicants respectfully submit that their invention, as claimed in independent claim 1, is patentable over the combination of Vaman, Miyagi and McAllister. Additionally, the other independent claims are patentable for the same reasons as independent claim 1, as well as their own additional features.

Moreover, the dependent claims are patentable for the same reasons as the independent claims, as well as for their own additional features. For example, the newly added dependent claims explicitly define that an instance identifier provides an indication that a failure event has occurred. There is no indication in any of the references of such an instance identifier. There is no indication in any of the references that such an identifier is necessary, useful or desirable to keep track of this information. Furthermore, there is no teaching, disclosure or suggestion in any of the references relevant to anything that could be remotely described as an instance identifier, as claimed by applicants. Thus, applicants respectfully submit that claims 8-10 are patentable for at least the reasons provided herein.

For all of the above reasons, applicants respectfully request an indication of allowability for all of the pending claims.

Should the Examiner wish to discuss this case with applicants' attorney, please contact applicants' attorney at the below listed number.

Respectfully submitted,

Blanche E. Schiller

Blanche E. Schiller
Attorney for Applicants
Registration No.: 35,670

Dated: January _11_, 2006.

HESLIN ROTHENBERG FARLEY & MESITI P.C.
5 Columbia Circle
Albany, New York 12203-5160
Telephone: (518) 452-5600
Facsimile: (518) 452-5579